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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,885	10/14/2003	Oh-Dal Kwon	5000-1-444	4849
33942	7590	03/08/2006	EXAMINER	
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			WOOD, KEVIN S	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

2)

Office Action Summary	Application No. 10/684,885	Applicant(s) KWON ET AL.	
	Examiner Kevin S. Wood	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/14/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 16-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

2ND NON-FINAL REJECTION

Response to Amendment

1. This action is responsive to the Amendment received on 14 December 2005. Claim 1 has been amended. Claims 16-23 have been previously withdrawn as claims directed to a non-elected invention. Claims 1-15 are pending in the application.

Response to Arguments

2. Applicant's arguments, filed 14 December 2005, with respect to the objections to the drawings have been fully considered and are persuasive. All of the objections to the drawings have been withdrawn in view of the amendment and arguments.
 3. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.
- The allowability of claim 12 has been withdrawn.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-3 and 5-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,027,255 to Joo et al. in view of U.S. Patent No. 6,480,639 to Hashimoto et al.

7. Referring to claim 1, the Joo et al. reference discloses all the limitations of the claimed invention. The Joo et al. reference discloses an optical hybrid module comprising: a substrate (41); an optical waveguide (20) having an optical coupling portion formed on at least a portion of the substrate to perform a transmission of optical signals, the waveguide having inclined surfaces adjacent to the optical coupling portion and being adapted for connection with a plurality of optical devices (10,36). See Fig. 1-4 along with their respective portions of the specification. The Joo et al. reference does not appear to specifically disclose a light blocking layer formed over the inclined surfaces where the light blocking layer prevents light from entering the optical devices when coupled to the optical waveguide through regions other than the optical waveguide. The Hashimoto et al. reference discloses an optical module where a light blocking layer (19) provided around the face of the optical waveguide for the purpose of allowing light to pass between the core and the optical devices while preventing any

unwanted light from being transmitted to or from the cladding portion of the waveguide. This unwanted light causes unwanted crosstalk and reduces the efficiency of the optical module. Since the Joo et al. reference and the Hashimoto et al. reference are both from the same field of endeavor, the purpose disclosed by Hashimoto et al. would have been recognized within the pertinent art of the Joo et al. reference. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a light blocking layer provided around the face of the optical waveguide for the purpose of allowing light to pass between the core and the optical devices while preventing any unwanted light from being transmitted to or from the cladding portion of the waveguide. This would prevent unwanted crosstalk within the device.

Referring to claim 2, the Joo et al. reference discloses a plurality of devices (10,36) mounted on the substrate (41) that are optically coupled to the optical waveguide (20). See Fig. 1-4 along with their respective portions of the specification.

Referring to claim 3, the Joo et al. reference discloses an optical receiving device (36) optical coupled with the waveguide (20). See Fig. 1-4 along with their respective portions of the specification.

Referring to claim 5, the Joo et al. reference discloses the plurality of optical devices (10,36) are integrally formed on the substrate (41). See Fig. 1-4 along with their respective portions of the specification.

Referring to claim 6, the Joo et al. reference discloses the an end surface of the optical coupling portion (23) centrally provided in the optical waveguide (20) is recessed within the cladding relative to where the light blocking layer would be applied by having

a central groove for the core in the cladding. See Fig. 1-4 along with their respective portions of the specification.

Referring to claim 7, the Joo et al. reference discloses the end surface of the optical coupling portion (23) centrally provided in the optical waveguide (20) is protruded relative to where the light blocking layer would surround it. See Fig. 1-4 along with their respective portions of the specification.

Referring to claim 8, the Joo et al. reference discloses the waveguide (20) comprises an end face surface of the core that is substantially perpendicular to the a portion of the upper surface of the substrate (41) where the light is reflected up towards the optical device (10). See Fig. 1-4 along with their respective portions of the specification.

Referring to claim 9, the Joo et al. reference discloses the perpendicular end surface of the optical coupling portion (23) is recessed within the cladding relative to the position of the inclined surfaces of the light blocking layer. See Fig. 1-4 along with their respective portions of the specification.

Referring to claim 10, the Hashimoto et al. reference discloses the light blocking layer (19) is formed over a surface of the optical waveguide, except for the optical coupling portion, and over the whole surface of the substrate (13). See Fig. 20 along with their respective portions of the specification.

Referring to claims 11 and 12, the Hashimoto et al. reference discloses the light blocking layer (19) is a metal layer and it may be a reflective layer. See Fig. 1-4 along

with their respective portions of the specification. It is obvious that the reflective layer could be a mirrored layer.

Referring to claim 13, the Joo et al. reference discloses an end surface of the optical coupling portion (23) centrally provided in the optical waveguide is recessed within a cladding relative to the inclined surfaces of the light blocking layer. See Fig. 1-4 along with their respective portions of the specification.

Referring to claim 14, the Joo et al. reference discloses the optical waveguide (20) has a core (23) and a cladding surrounding the core. See Fig. 1-4 along with their respective portions of the specification.

Referring to claim 15, the Hashimoto et al. reference discloses the light blocking layer (19) formed on a whole upper surface of the optical waveguide. See Fig. 20 along with their respective portions of the specification.

8. Claim 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,027,255 to Joo et al. in view of U.S. Patent No. 6,480,639 to Hashimoto et al. and in further view of U.S. Patent No. 6,445,857 to Korenga et al.

Referring to claim 4, the Joo et al. reference in view of the Hashimoto et al. reference discloses all the limitations of the claimed invention except neither reference appears to specifically disclose the wavelength selective filter is a multi-layer thin film filter and that it is substantially perpendicular to the optical waveguide. The Korenga et al. reference discloses a multi-layer thin film filter (110) for wavelength selection, where the thin film filter allows transmits light having a first wavelength while reflecting light

having a different wavelength. The Korenga et al. reference also discloses that the thin film filter is set substantially perpendicular to the optical waveguide (12). See Fig. 1-5 of the Korenga et al. reference along with their respective portions of the specification. Since the Joo et al. reference, Hashimoto et al. and the Korenga et al. reference are all from the same field of endeavor, the purpose disclosed by Korenga et al. would have been recognized in the pertinent art of Joo et al. and Hashimoto et al. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a multi-layer thin film filter, set substantially perpendicular to the waveguide, as a wavelength selective filter for use in the Joo et al. device for the purpose of allowing a specific wavelength continue through the waveguide, while reflecting another wavelength towards the receiver (PD).


Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin S. Wood whose telephone number is (571) 272-2364. The examiner can normally be reached on Monday-Thursday (7am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B. Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2874

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink that reads "Kevin S. Wood". The signature is written in a cursive, flowing style.

Kevin S. Wood
Patent Examiner